Order No. MAC0009038C1

E9

Service Manual

Room Air Conditioner

CW-XC100AU / CW-XC120AU

SPECIFICATIONS

Specification

Model	CW-XC100AU	CW-XC120AU
Phase	Single	Single
Voltage	115 V	115 V
Frequency	60 Hz	60 Hz
Cooling Capacity	2.93 kW	3.37 kW
	10,000 Btu/h	11,500 Btu/h
Running Current	8.4 A	9.8 A
Input Power	950 W	1.11 kW
EER	10.5 Btu/W.h	10.3 Btu/W.h
Starting Current	49 A	54 A
Compressor Output	650 W	750 W
Fan Motor Output	60 W	60 W
Noise Level	Indoor (High / Low):	Indoor (High / Low):
	49 / 45 dB(A)	50 / 45 dB(A)
	Outdoor (High / Low):	Outdoor (High / Low):
	57 / 54 dB(A)	58 / 55 dB(A)
Moisture Removal	1.1 Ltr/h	1.4 Ltr/h
	2.3 Pint/h	3.0 Pint/h
Air Circulation	9.3 m3/min.	9.3 m3/min.
	330 Ft3/min.	330 Ft3/min.

Model	CW-XC100AU	CW-XC120AU
Dimensions	Height: 375 mm (14-25/32 inches) Width: 560 mm (22-1/16 inches) Depth: 610 mm (24-1/32 inches)	Height: 375 mm (14-25/32 inches) Width: 560 mm (22-1/16 inches) Depth: 610 mm (24-1/32 inches)
Net Weight	44 kg 97 lb	44 kg 97 lb
Gross Weight	50 kg 110 lb	50 kg 110 lb
Refrigerant (R-22)	630 g 22.2 oz	630 g 22.2 oz

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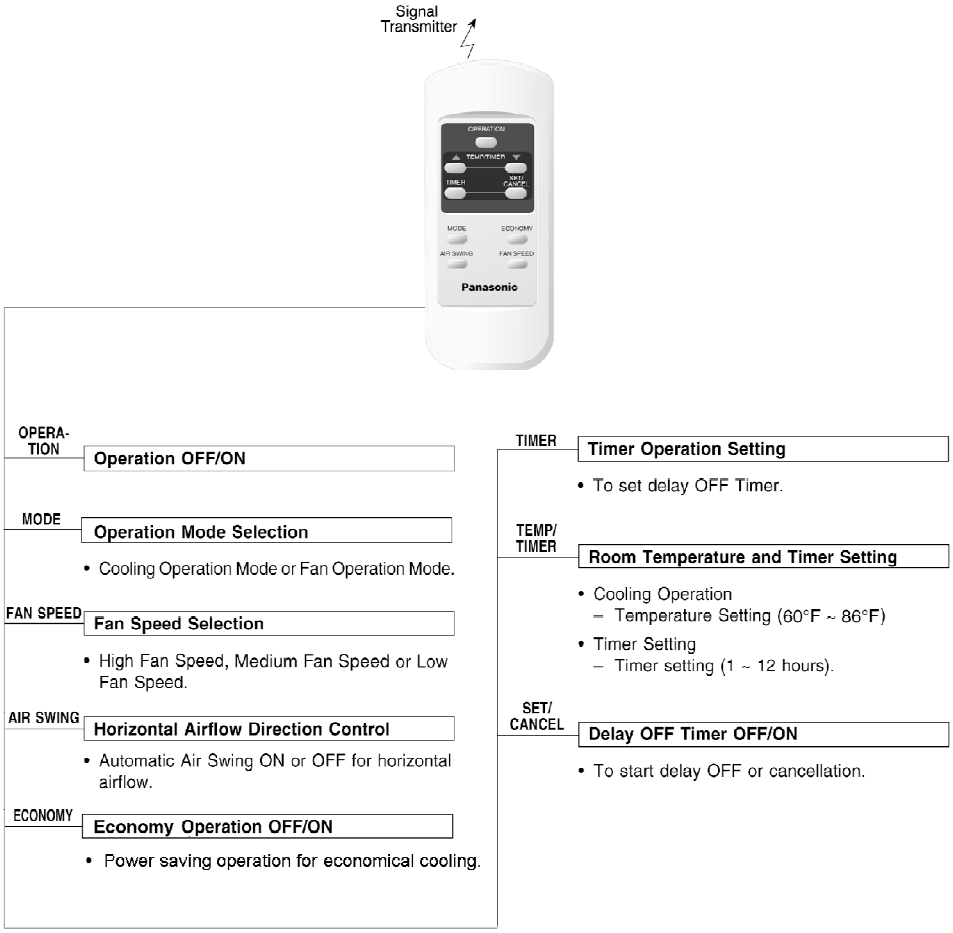
⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public.
It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product.
Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

Panasonic®

1. Functions

1.1. Remote Control


Signal
Transmitter
Panasonic
OPERA-
TION
Operation OFF/ON
MODE
Operation Mode Selection
• Cooling Operation Mode or Fan Operation Mode.
FAN SPEED
Fan Speed Selection
• High Fan Speed, Medium Fan Speed or Low Fan Speed.
AIR SWING
Horizontal Airflow Direction Control
• Automatic Air Swing ON or OFF for horizontal airflow.
ECONOMY
Economy Operation OFF/ON
• Power saving operation for economical cooling.
TIMER
Timer Operation Setting
• To set delay OFF Timer.
TEMP/
TIMER
Room Temperature and Timer Setting
• Cooling Operation
– Temperature Setting (60°F ~ 86°F)
• Timer Setting
– Timer setting (1 ~ 12 hours).
SET/
CANCEL
Delay OFF Timer OFF/ON
• To start delay OFF or cancellation.

1.2. Main Unit

OPERA-TION
Operation OFF/ON

Remote Control Signal Receiving Sound
- Can be enable/disable by pressing down Operation OFF/ON button for 10 seconds.

Operation Indicator Light (LED'S)
- **MODE**
  COOL (Green) ..... Lights up in Cooling Mode Operation.
  FAN (Orange) ..... Lights up in Fan Mode Operation.
- **FAN SPEED**
  HIGH (Orange) ..... Lights up in High Fan Speed Operation.
  MED (Orange) ..... Lights up in Medium Fan Speed Operation.
  LOW (Orange) ..... Lights up in Low Fan Speed Operation.
- **TIMER** (Orange) ..... Lights up in Timer Setting.
- **ECONOMY** (Orange)..... Lights up in Economy Operation.

MODE
Operation Mode Selection
- Cooling or Fan Mode.

FAN SPEED
Fan Speed Selection
- High, Medium or Low Speed.

AIR SWING
Airflow Direction Control
- Automatic Air Swing ON or OFF for horizontal airflow. (Manually adjusted by hand for vertical airflow.)

ECONOMY
Economy Operation OFF/ON
- Power saving operation for economical cooling.

TIMER
Timer Operation Setting
- To set delay OFF Timer.

TEMP/ TIMER
Room Temperature and Timer Setting
- Cooling Operation.
  - Temperature setting (60°F~86°F).
- Timer Setting.
  - Timer Setting (1~12 hours).

SET/ CANCEL
Delay OFF Timer OFF/ON
- To start delay OFF or cancellation.

Random Auto Restart Control
- Random auto restart after power failure at previous setting mode.

Freeze Prevention Control
- Freeze prevention control for the Evaporator. (Cooling Operation Only)

Starting Current Control
- Fan Motor is delayed for 1.6 seconds when Compressor starts simultaneously.

Time Delay Safety Control
- Restarting is inhibited for approximately 3 minutes.

7 Minutes Time Save Control
- Cooling operation only.

60 Secs. Forced Operation Control
- Once the compressor is activated, it does not stop within the first 60 seconds. However, it stops immediately with remote control stop signal.

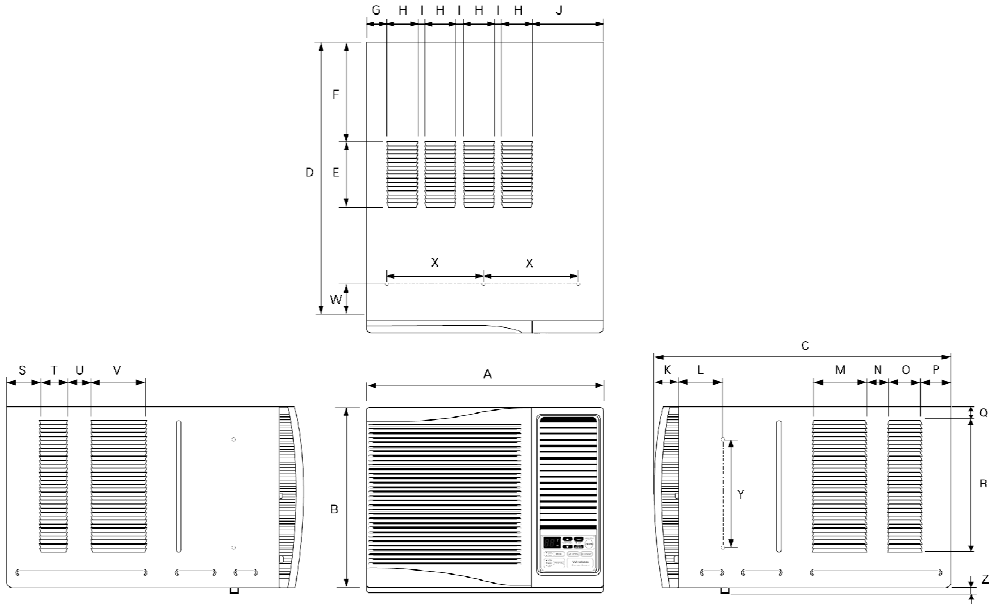
Compressor Reverse Rotation Protection Control
- To protect compressor from reverse rotation when there is an instantaneous power failure.

Overload Protector
- Overload protector will trip to protect the compressor when it is overheated.
  (CW-XC100AU - Open: 140±5°C, Close: 74±9°C)
  (CW-XC120AU - Open: 165±5°C, Close: 75±9°C)

2. Dimensions

2.1. CW-XC100AU / CW-XC120AU /

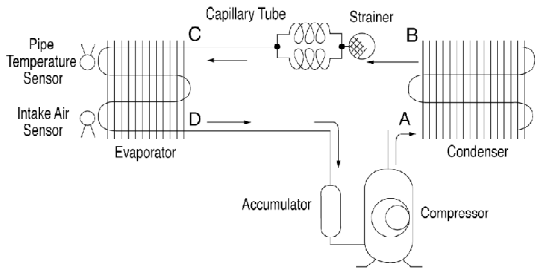
2.1.1. Top View, Front View and Side View.



Item	Unit: Inch (mm)
A - Width	22-1/16” (560)
B - Height	14-25/32” (375)
C - Depth	24-1/32” (610)
D	22-9/32” (566)
E	5-29/32” (150)
F	6-1/2” (165)
G	1-11/16” (43)
H	2-31/32” (75)
I	0-15/32” (12)
J	7-1/8” (181)
K	1-23/32” (44)
L	2-21/32” (67.5)
M	5-7/16” (138)
N	1-3/16” (30)
O	3-5/8” (92)
P	2-17/32” (64)
Q	0-23/32” (18)
R	11-13/16” (300)
S	3-5/32” (80)
T	2-3/4” (70)
U	1-5/16” (33)
V	5-1/2” (140)
W	2-9/16” (65.5)
X	9-7/16” (240)
Y	9-5/16” (236)
Z	0-21/32” (16.8)

3. Refrigeration Cycle Diagram

3.1. CW-XC100AU / CW-XC120AU /



3.2. CW-XC100AU

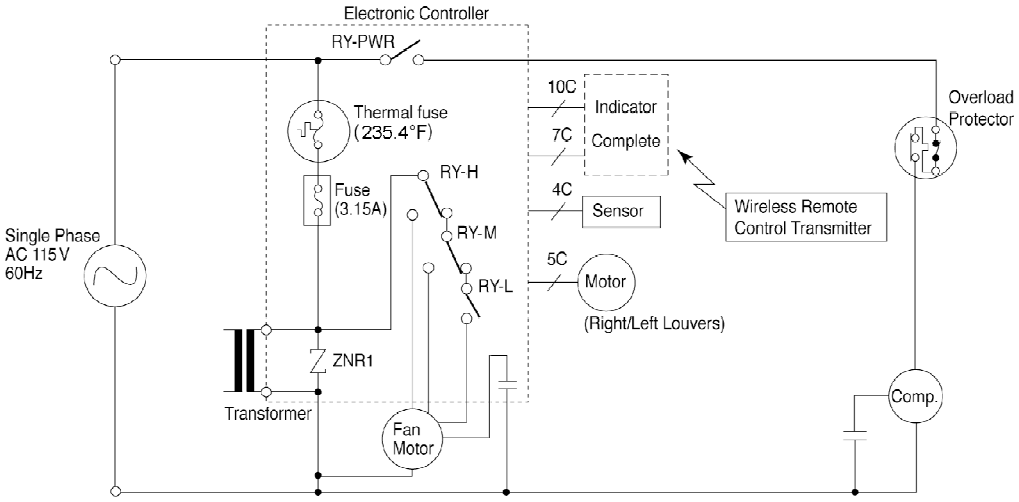
Item	Pressure (MPa)	Temperature (°F)
A	1.92 ~ 1.97	150 ~ 158
B	1.89 ~ 1.94	97 ~ 105
C	0.60 ~ 0.65	50 ~ 58
D	0.56 ~ 0.61	51 ~ 59

3.3. CW-XC120AU

Item	Pressure (MPa)	Temperature (°F)
A	1.97 ~ 2.02	156 ~ 164
B	1.94 ~ 1.99	100 ~ 108
C	0.57 ~ 0.62	46 ~ 54
D	0.53 ~ 0.58	50 ~ 58

4. Block Diagram

4.1. CW-XC100AU / CW-XC120AU /

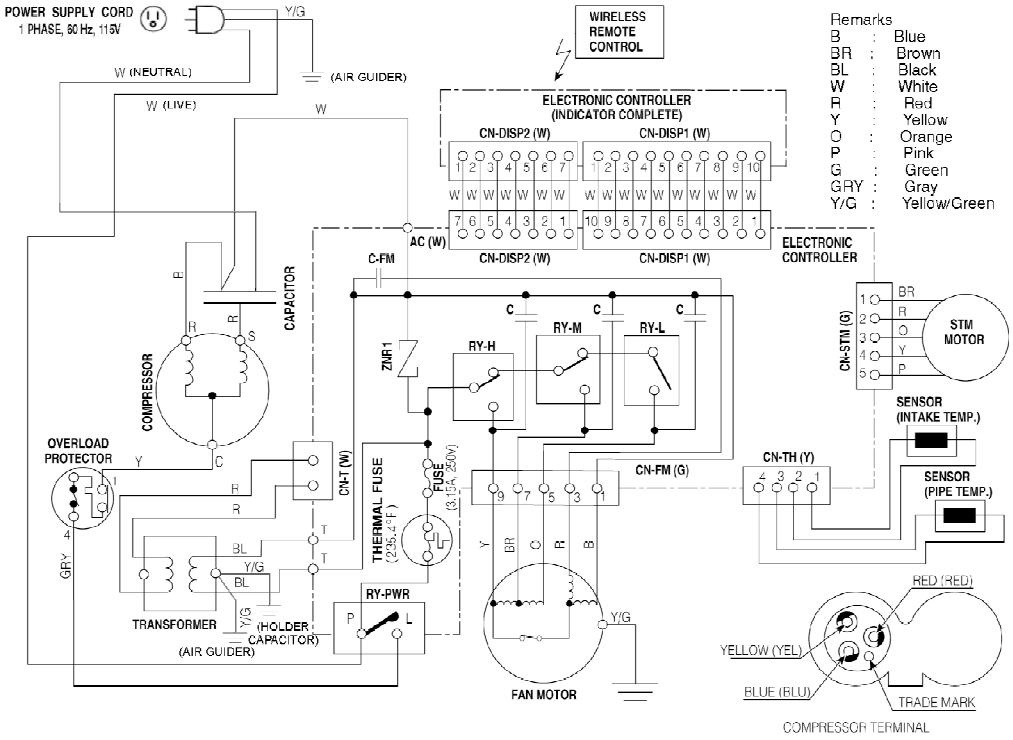


※ ▭ Indicates the electronic control unit.

※ "C" Indicates the number of core wires. (Example : 7C = 7 core wires)

5. Wiring Diagram

5.1. CW-XC100AU / CW-XC120AU /



5.2. Resistance of Fan Motor windings and the rated Capacitor.

Model	CW-XC100AU & CW-XC120AU
Connection	CWA951047
Blue - Yellow	21.0 Ω
Yellow - Brown	5.2 Ω
Brown - Orange	6.7 Ω
Red - Yellow	28.0 Ω
Capacitor	CWA312046 (10 μ F, 230VAC)

5.3. Resistance of Compressor windings and the rated Capacitor.

Model	CW-XC100AU	CW-XC120AU
Connection	2P14S126B1Q	2P16S126B1M
C-R	0.777 Ω	0.666 Ω
C-S	2.252 Ω	2.163 Ω
Capacitor	CWA31410 (40 μ F, 250VAC)	CWA31411 (45 μ F, 250VAC)

Note: Resistance at 68°F of Ambient Temperature.

6. Air Conditioner Performance Evaluation

Suction & Discharge Air Temperature Difference	Current	Determination	Remedy
-8°C and over (14.4°F)	-As specified.	-Nothing wrong.	-None.
-8°C and over (14.4°F)	-Higher than specified.	-Nothing wrong, outdoor temperature is too high, heat radiation is not efficient.	-Improve heat radiation.
-Under 8°C (14.4°F)	-Higher than specified.	-Something is preventing heat radiation.	-Excessive amount of refrig -Improve heat radiation.
-Under 8°C (14.4°F)	-Lower than specified.	-Leakage of refrigerant or refrigerant system is blocked.	-Locate and repair leak. -Flush refrigeration cycle.
-Under 8°C (14.4°F)	-Higher than specified by 50%.	-Compressor defect.	-Replace the compressor.

Note: Room air humidity is relatively higher, the temperature difference will be smaller.

7. Troubleshooting Guide

Warning: Disconnect unit from electrical power supply before making any electrical checks.

Trouble	Check	Result	Cause	Remedy
Fan Motor and Compressor won't run.	-Supply Voltage -Fuse Box or Circuit Breaker. -Power cord or Wiring Harness. -Temp. Setting.	-Less than 10% by Rated. -Open Contacts. -Pulled loose or Shorted. -Higher than ROOM TEMP.	-Customer Restarted unit immediately without waiting 3 minutes.	-Consult ELECTRICIA -Repair Open Circuit. -WAIT FOR 3 MINUTE -Repair or Replace it. -Set it LOWER.
Fan Motor won't run.	-Objects around Fan. -RESISTANCE between Wires. -Capacitor Fan Motor.	-Locked Fan. -Shorted/ Open circuit. -OHM Meter doesn't Deflect.	-Fan Hitting Cowling or -Foreign Materials. -Frozen Bearings. -Shorted or Burned out. -Capacitor Defect.	-Adjust Fan position s screw. -Remove Foreign Mat -Replace Fan Motor. -Replace Fan Motor. -Replace Capacitor Fa
Compressor won't run (Fan Runs).	-Temp. setting. -RESISTANCE between Terminal and the Compressor Body. -RESISTANCE between Terminals. -Capacitor Compressor. -Overload Protector.	-Higher than room temperature. -Shorted. -Shorted. -OHM Meter doesn't deflect. -Infinity between Terminals.	-Winding Coil touched to the Body. -Rare Shorted or Burnt out. -Capacitor defect. -Overload Protector defect.	-Set it lower. -Replace Compressor -Replace Compressor -Replace Capacitor Compressor. -Replace Overload Pr
Insufficient cooling.	-Temp. Setting. -Ventilation Door open. -Air filter dirty. -Location of installation. -Evaporator/Condenser Coil obstructed. -Unit capacity for the room too small. -Temp difference and running current.	-Higher than room temperature. -Open -Clogged or dirty. -Sunlight hitting outdoor side. -Obstacles. -Clogged or dirty. -Not satisfied. -REFER PERFORMANCE EVALUATION.	-Reduce capacity. -Restricted air circulation. -Restricted Heat Exchanger. -Restricted Heat Exchanger. -Restricted air circulation -Leakage of refrigerant or refrigeration system is blocked.	-Set it lower. -Close Vent door. -Clean or Replace Air -Consider building an -Remove obstacles o unit. -Clean using steam c -Replace the unit with one. -Locate repair leak. -Flush refrigeration c
Noise.	-Source of Noise	-Vibration. -Intermittent Noise.	-Faulty installation. -Fan hitting objects. -Refrigerant tubing touching each other. -Fan splashing Drain Water.	-Reinstall unit or Reir installation. -Adjust Fan position foreign materials. -About 1/2" Clearance -Remove drain plug a a drain pan to remove -Set the Drain outlet downward, so that the water can run off.
Water dripping inside room.	-Unit installation. -Drain Tray- STYROFOAM pieces blocking Drain Channel.	-Tilted to inside room. -Clogged.	-Restricted run off. -Clogged or blocked.	-Tilt unit to outside sl -Remove the foreign

8. Operation Details

8.1. Fan Mode Operation

- Fan operation only. Fan in operation according to Remote Control

or Main Unit (Touch Control Panel) setting.

8.1.1. Manual Setting of Fan Speed

- Basic Fan Speed can be manually adjusted (Lo, Med or Hi) by using the Fan Speed Selection Button/Pad at Remote Control or Main Unit (Touch Control Panel).

8.2. Cooling Mode Operation

- Cooling in operation according to Remote Control or Main Unit (Touch Control Panel) setting.

8.2.1. Time Delay Safety Control (3 minute)

- When the compressor is stopped by Operation Switch at the Remote Control or Main Unit (Touch Control Panel), it restart after 3 minutes when the Operation Switch at the Remote Control or Main Unit (Touch Control Panel) is turned ON.
- When the setting temperature is reached during cooling operation, the compressor stops and it will not start for 3 minutes.
- Protection of compressor to balance the pressure in the refrigeration cycle for 3 minutes.

8.2.2. 7 minutes Time Saved Control

- The compressor will start automatically if it has stopped for 7 minutes even if the room temperature is between the compressor ON temperature and OFF temperature.

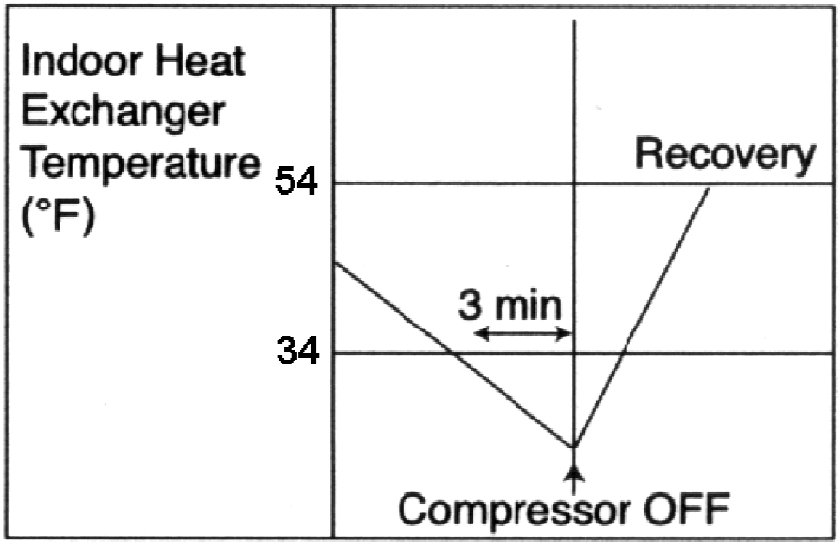
8.2.3. Starting Current Control

- When the compressor and fan motor are simultaneously started, the fan motor will operate 1.6 seconds later.

8.2.4. Freeze Prevention Control

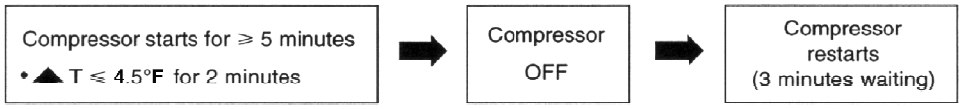
- If the temperature of the indoor heat exchanger falls continuously below 34°F for 3 minutes or more, the compressor turns off to protect the heat exchanger from freezing. The fan speed setting remains the same.
- Compressor restarts when the heat exchanger temperature rises to 54°F (Recovery).

  *3 minutes waiting of Time Delay Safety Control is valid for Cooling Operation.



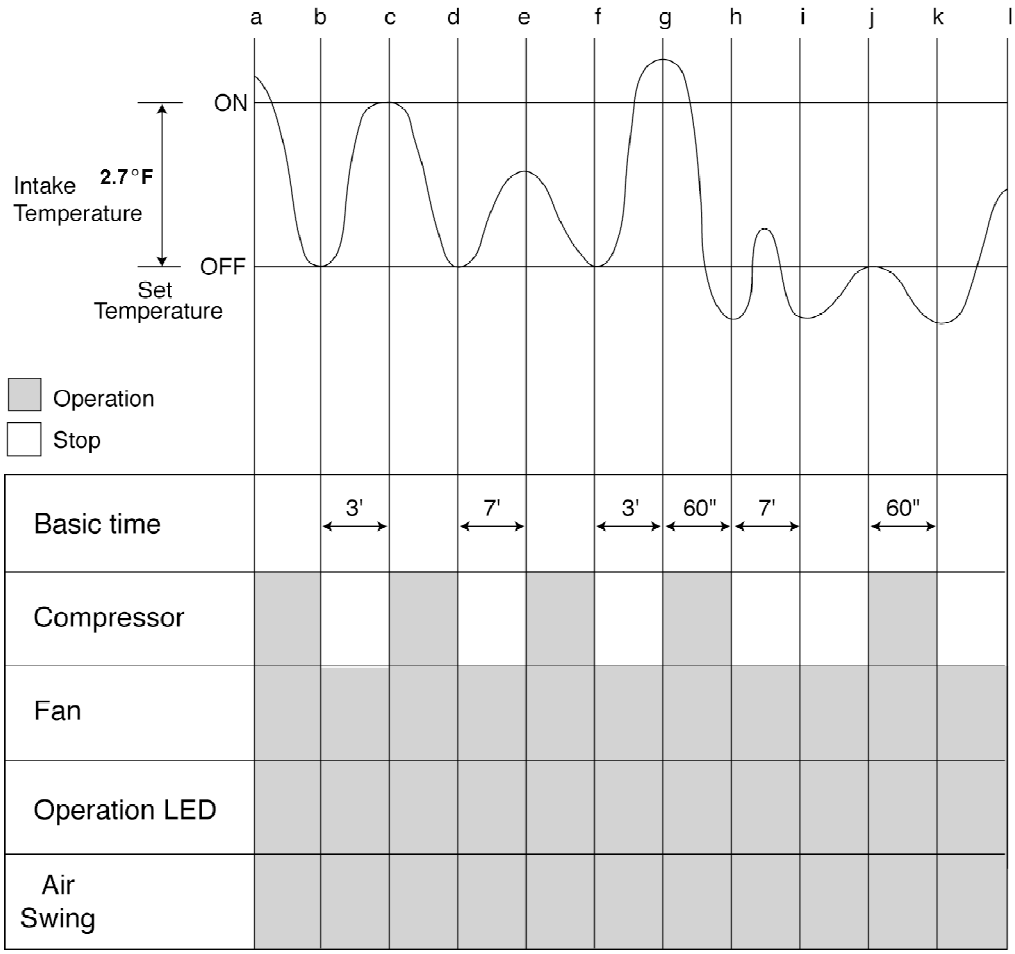
8.2.5. Compressor Reverse Rotation Protection Control

- If the compressor is operating continuously for 5 minutes or longer and the temperature difference between intake air and heat exchanger is 4.5°F or less for 2 minutes, compressor will stop and restart automatically (Time Delay Safety Control is valid).



• ▲T = Intake air temperature – Indoor heat exchanger temperature
This is to protect reverse rotation of the compressor when there is an instantaneous power failure.

8.2.6. Cooling Operation Time Diagram



< Description of operation >
b – c : Time Delay Safety Control (waiting for 3 minutes).
d – e : 7 minutes Time Saved Control.
g – h : 60 sec. forcible operation.

8.3. Economy Operation

- Purpose of this operation is for electricity cost saving.
- When Economy button is pressed, target temperature is shifted up 1°F, this will reduce operating time of the compressor and therefore reduce power consumption. It may, however, take a little longer for the compressor to cycle on and thereby increase the room temperature slightly.
- Compressor stops when the room temperature reaches the target temperature. It turns on again when the room temperature rises.
- This operation automatically will be running under Low Fan Speed.
- Economy operation will stop if:-
- Economy button/Pad is pressed again.
- Stopped by ON/OFF operation.
- Timer OFF activates.

8.4. Random Auto Restart Control

- If there is a power failure, operation will be automatically restarted after 3 to 4 minutes when the power is resumed.
  It will start with previous operation mode and airflow direction (Time Delay Safety Control is valid) as the operation was not stopped by Remote Control or Main Unit (Touch Control Panel).
- Restart time is decided randomly with 5 parameters:-
- Intake air temperature.
- Setting temperature.
- Fan speed.
- Air Swing blade position.
- Indoor heat exchanger temperature.
- Auto Restart Control is not available when Timer is set.
- If Economy operation is set during power failure, Economy operation will not start automatically along with previous operation mode after power resume.
- This control can be omitted by opening jumper JX1.

8.5. Fan Speed Control

- Manual Fan Speed Control
  Basic fan speed adjustment (3 setting, from Lo, Med to Hi) can be carried out by using the Fan Speed Selection Button/Pad at the Remote Control or Main Unit (Touch Control Panel).

Mode	Fan setting		Fan Speed		
			Hi	Me	Lo
Cooling	Manual	Normal	o	o	o
		Economy			o
Fan	Manual	Normal	o	o	o

8.6. Airflow Direction Control

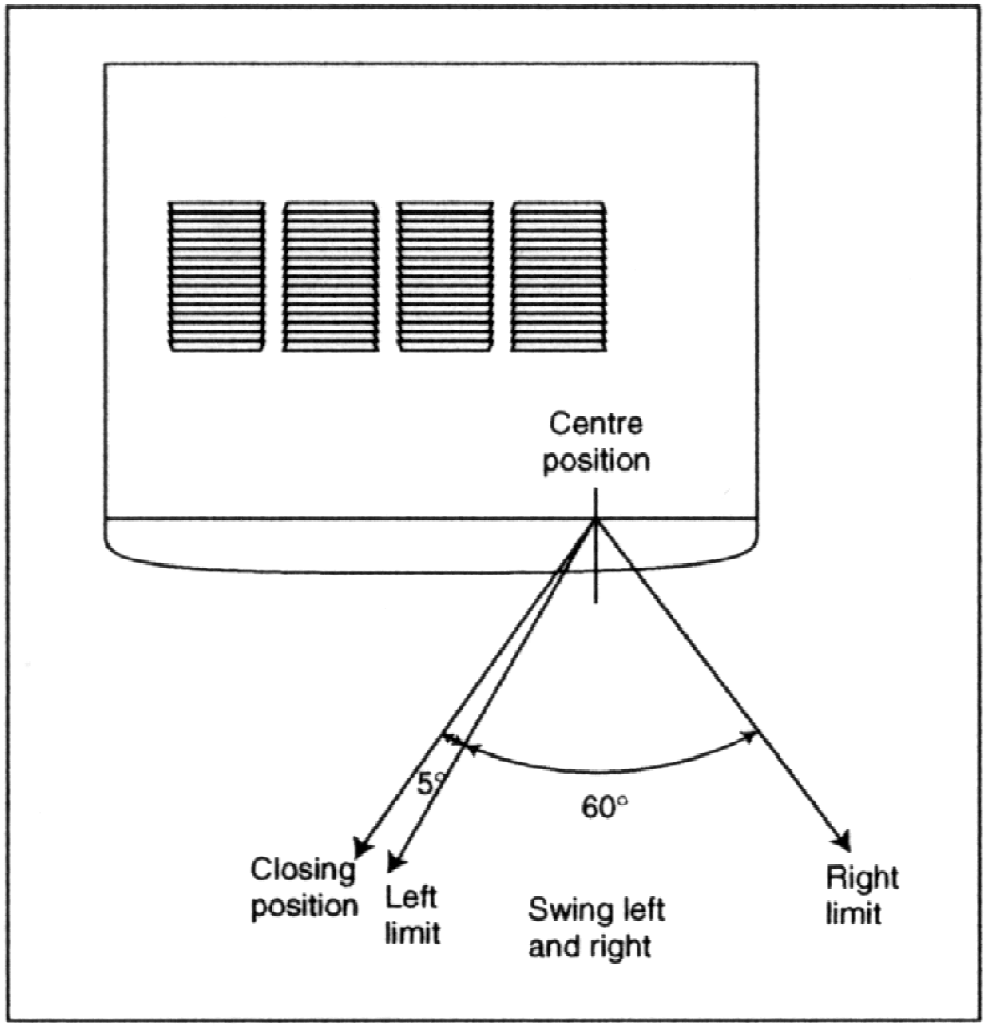
8.6.1. Horizontal Airflow Direction

- When Air Swing Button/Pad is pressed with Remote Control or Main Unit (Touch Control Panel) in the Auto Airflow, the airflow direction louver swings side to side within the full swing range as

shown in the “Diagram”.

- The louver can be adjusted by pressing the Button/Pad again at the Remote Control or Main Unit (Touch Control Panel) to the desired louver position.
- When stopped with Remote Control or Main Unit (Touch Control Panel), the louver vane is reset, and stopped at the closing position.

“Diagram”



8.6.2. Vertical Airflow Direction

- The upward and downward airflow direction vane can be adjusted manually by hand.

8.7. Remote Control Signal Receiving Sound

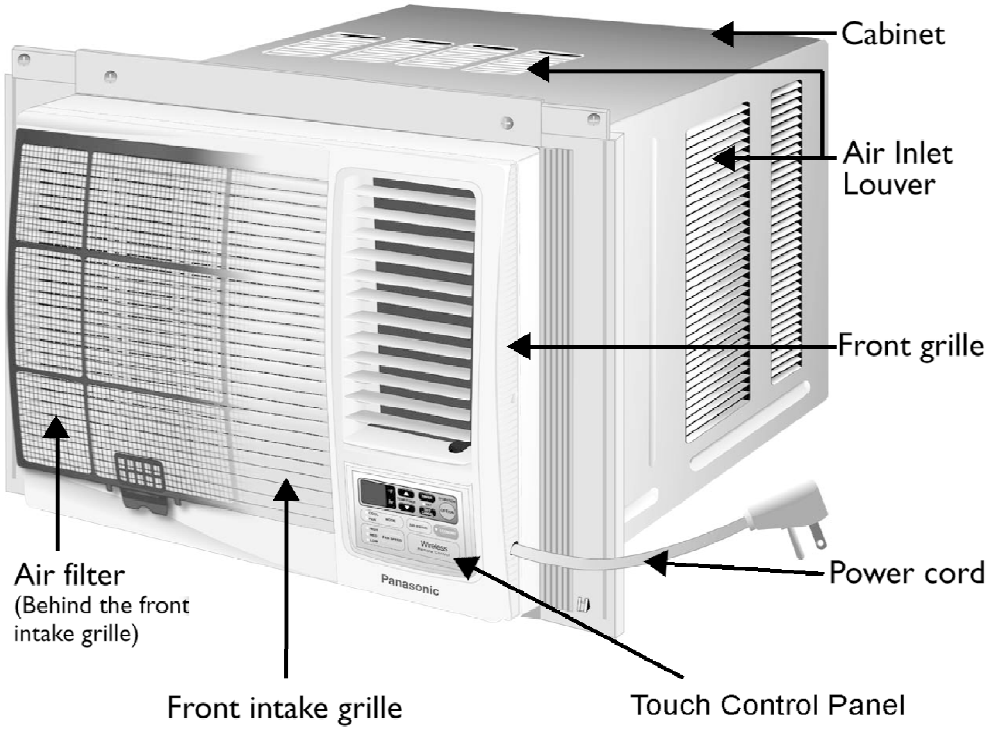
- To switch off the beep sound.
  Press the “Operation OFF/ON Pad“ at the main unit continuously

for 10 second or more.
Repeat the above if you want to switch ON the “beep” sound.
***However, if the “Operation OFF/ON Pad” have been pressed, the previous operation mode will be activated. If you do not require this operation, you may change it by using the Main Unit (Touch Control Panel).**

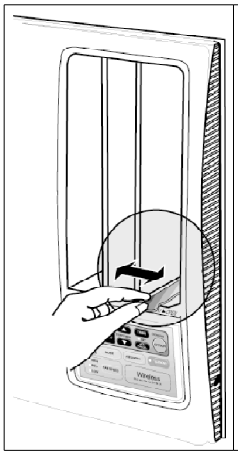
9. Operating Instructions

9.1. Parts Identification.

9.1.1. Main Unit.



9.1.1.1. Ventilation Lever.

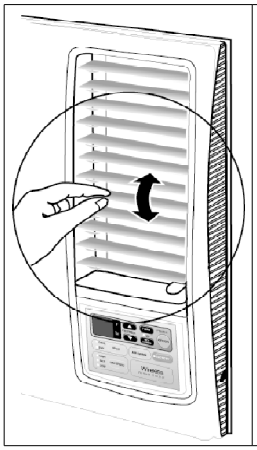


When the slide lever is in the:

-“OPEN” position, the ventilation door opens to allow air, smoke and odors to be expelled from the room.

-“CLOSE” position, the ventilation door is closed and the air inside the room is circulated and conditioned.

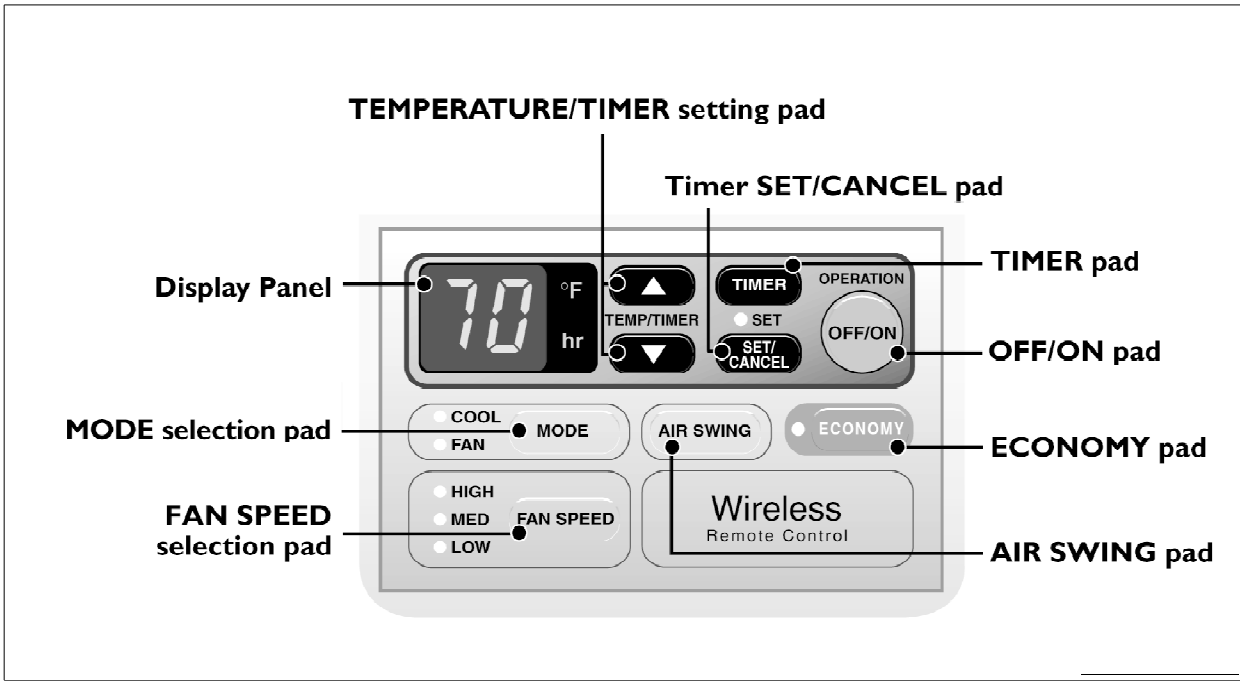
9.1.1.2. Airflow Direction Vane.



Vertical airflow direction adjustment Up-and-Down.

-The vertical airflow direction vane is controlled by positioned the vane to discharge the air upwards, downwards or straight out.

9.1.1.3. Touch Control Panel.



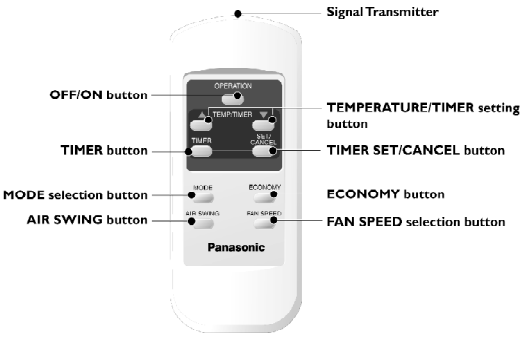
9.1.1.4. Types of Signal Sound.

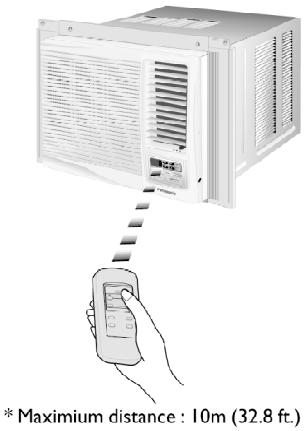
- One long “beep” and one short “beep” (emitted by the main unit).

- To cancel signal sound, press and hold OFF/ON for more than 10 seconds.

- To restore signal sound, repeat the above operation.

9.1.2. Remote Control.





* Maximium distance : 10m (32.8 ft.)

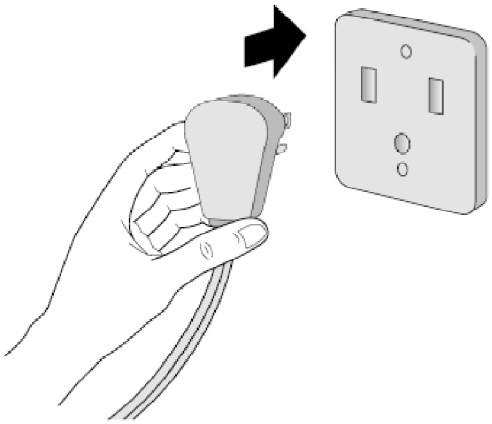
Be sure to observe the following:

- **Aim remote control at the control panel on air conditioner when operating.**
- **Do not drop or throw the remote control.**
- **Do not place the remote control where it is exposed to direct sunlight or next to a heating unit or other heat sources.**

9.2. Preparation Before Operating.

9.2.1. Before Operate the Air Conditioner.

Warning	**Ensure that the power plug is securely inserted.** **- A loose plug may cause a fire or an electric shock.**



1. Insert the power plug securely.

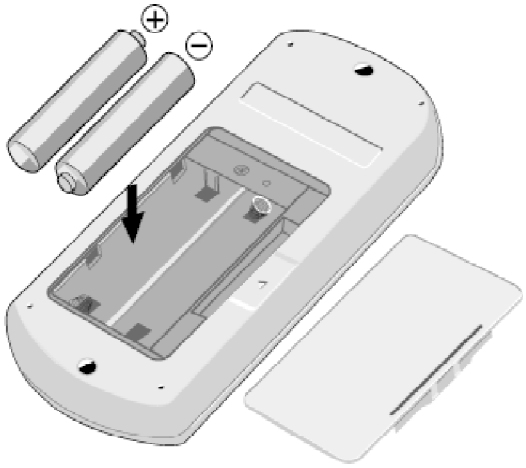
9.2.2. Notes

- If the unit is not going to be used for an extended period of time, remove the power plug. Otherwise, approximately 2.5W of electricity will be used even if the unit has been turned off using the remote control.

- If the unit is restarted immediately after operation is stopped it will resume operation only after 3 minutes.

9.2.3. How to Insert Batteries.

1. Open the battery compartment cover.



2. Insert the two R03 ”AAA” dry-cell batteries. Be sure that the polarities are correct.

3. Close the compartment cover.

9.2.4. About the Batteries.

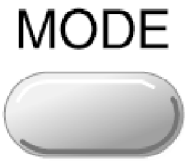
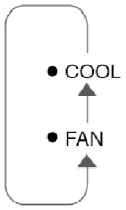
- **The batteries can be used for approximately one year.**
- **Do not use rechargeable (Ni-Cd) batteries because such batteries differ from the standard dry cell batteries in shape, dimension and performance.**
- **Be sure to replace the batteries with two new identical batteries.**
- **Remove the batteries if the air conditioner will not be used for an extended period of time.**

9.3. Air Conditioner Operation.

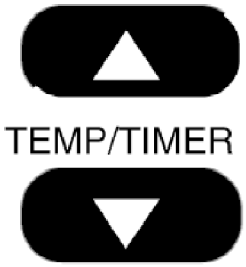
9.3.1. Operating the Unit.

Touch Control Panel	Remote Control	Display	
OPERATION OFF/ON	OPERATION		**(1) Start operation by pressing OFF/** **-Operation will start and the display panel will ligh**
OPERATION OFF/ON	OPERATION		**(2) To stop operation, press OFF/ON** **-The unit will stop operating and the display panel turn off.**

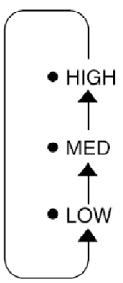
9.3.2. Selecting Operation Mode.

Touch Control Panel	Remote Control	Indicator	
		 The indicator will change in order as set.	**(1) Press MODE to select the desired operation.** **-The indicator will light up and a "beep" sound wil changing setting.** **-COOL mode: To set display temperature to your of cooling comfort.** **-FAN mode: To provide air circulation without co room. During Fan operation, temperature setting selected.**

9.3.3. Setting Display Temperature.

Touch Control Panel	Remote Control	Display	
		Display will change according to the setting.	**(1) Press TEMP/TIMER "Upward" or "Downward" to set the display temp** **-The temperature can be set between 60°F and 86° Recommended temperature: 75°F ~ 78°F.** **-"Upward": Press to increase temperature.** **-"Downward": Press to decrease temperature.** **Note:** **-The latest temperature setting will be memorized appear on the display the next time it's turned on.** **-The display temperature selection is for display p and does not indicate actual room setting tempera room temperature may not necessarily match the c temperature.**

9.3.4. Selecting Fan Speed.

Touch Control Panel	Remote Control	Indicator	
		 The indicator will change in order as set.	**(1) Press FAN SPEED to choose the level of the fan.** **-The indicator will light up and a "beep" sound wil changing setting.** **Note: The latest fan speed setting wi memorized and will appear on the di the next time the unit is turned on.**

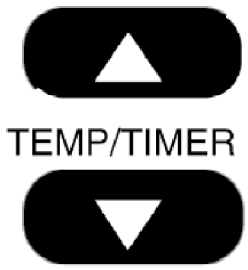
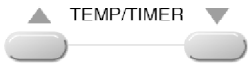
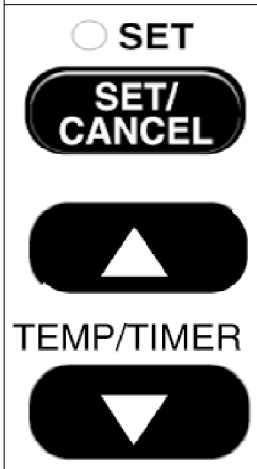
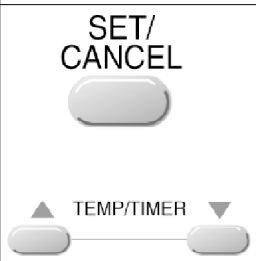
9.3.5. Adjusting Horizontal Airflow Direction.

Touch Control Panel	Remote Control	Indicator	
		No indication will appear.	(1) Press to select AIR SWING. -The air circulation will automatically move the hor louvers left and right for better air distribution arou Note: Using your hands to adjust the direction may cause the louvers to malfunction. If this happens, stop op immediately and restart.

9.3.6. Economy Operation.

Touch Control Panel	Remote Control	Display	
			(1) To reduce power consumption: -Press ECONOMY. -To cancel this operation, press once more. Note: Recommended for electricity c saving. When Economy button is pre target temperature is shifted up 1°F, reduce operating time of the compre therefore reduce power consumptio however, take a little longer for the compressor to cycle on and thereby the room temperature slightly. Econ operation will override your current speed, setting it to “LOW”. Compres stops when the room temperature re the target temperature. It turns on ag when the room temperature rises. W power failure occurs, the economy s cancelled. Once power is resumed, r economy setting.

9.3.7. Setting Delay Stop Timer.

Touch Control Panel	Remote Control	Display	
			(1) Press the TIMER button. **-The SET/CANCEL indicator light will blink, indicat is required.**
			**(2) Press the TEMP/TIMER "Upward' "Downward" button.** **-Press "Upward" or "Downward" button until the p hour of operation is reached.**
			**(3) Press the SET/CANCEL button to complete the setting.** **-At this time, the SET/CANCEL indicator light is ste of blinking.** **Note: The hour reading will change l the set temperature reading after 10 (You can also revert to temperature immediately by pressing the TEMP/T "Upward" or "Downward" buttons a**

9.3.7.1. Timer Details.

- **The timer is for delay stop only.**
- **The unit will turn off automatically according to your specified setting.**
- **Timer duration can be set from a minimum of 1 hour to a maximum of 12 hours.**
- **When power failure occurs, the timer setting is cancelled. Once power is resumed, timer is reset.**

Note: The last timer setting will be memorized and will appear on the display the next time you operate the unit with the Timer function.

9.3.8. Check Timer Setting.

Touch Control Panel	Remote Control	Display	
TIMER	TIMER	3 °F hr 2 °F hr	(1) Press the TIMER button to check remaining programmed timer setting -The figure will be displayed for 10 seconds then w automatically switch back to temperature setting. Note: The timer figure will change ac to the time remaining (if you set it to 3 hours from now, the timer will sho when you check the timer an hour la

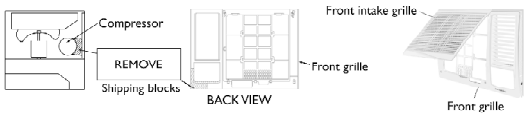
9.3.9. Cancel Timer.

Touch Control Panel	Remote Control	Display	
SET SET/ CANCEL	SET/ CANCEL	°F hr b7 °F hr	(Cancellation within 10 seconds) (1) Press the SET/CANCEL button to the timer setting. -The temperature reading and SET/CANCEL indica turn off simultaneously. Temperature setting will be displayed again 10 sec (or, press the TEMP/TIMER "Upward" or "Downwa show the temperature reading immediately).
SET SET/ CANCEL	SET/ CANCEL	b7 °F hr	(Cancellation after 10 seconds) (1) Press the SET/CANCEL button to the timer setting. -The SET/CANCEL indicator light will turn off. However the temperature remains displayed.

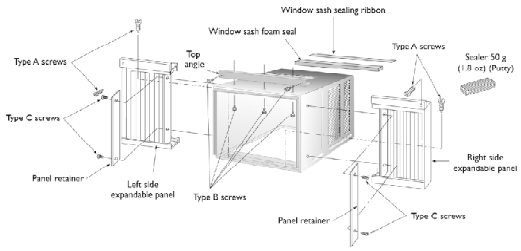
10. Air Conditioner Installation

- Caution:

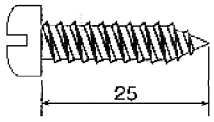
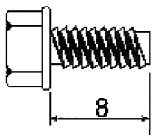
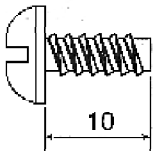
PleaseremovetheshippingblocksfixedtotheCompressorandFrontGrillel nstallation.



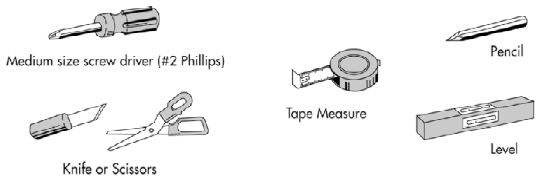
- Installation Box Contents.



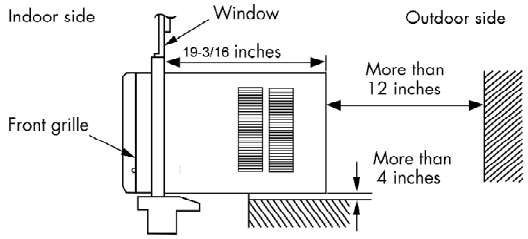
- Screws Furnished.

Type	Description	Part No.	Qty.
Type A 	-Expandable Panel -Wood screw, tapping type L25mm X D5mm. -Rounded head with beige color.	XTN5D25A	4
Type B 	-Top and Bottom Brackets -Machine screw L8mm X D4mm. -Hexagon head with beige color.	CWH4580211	5
Type C 	-Panel Retainer -Tapping screw L10mm X D4mm. -Rounded head with beige color.	XTT4D10C	4

- Suggested Tool List.



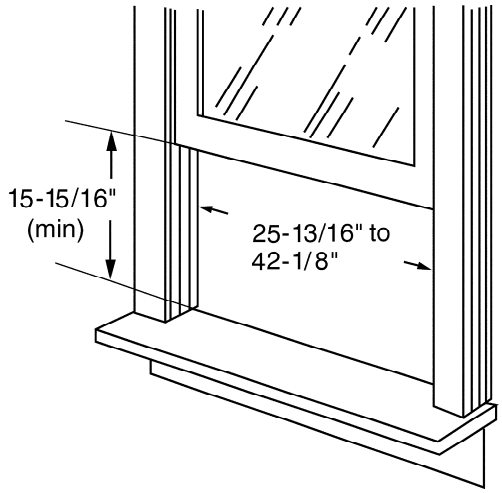
- Select the Best Location (Single or Double Hung Window).



- Window Requirements.

- Hot sun rays hitting the outside surface of the cabinet will create considerable heat load. If the outside of the cabinet is exposed to

direct sunlight, consider building an awning to shade the cabinet while providing ample area for the heated air to be exhausted from the condenser (both sides) and the top.



This unit is designed for installation in standard double hung windows.

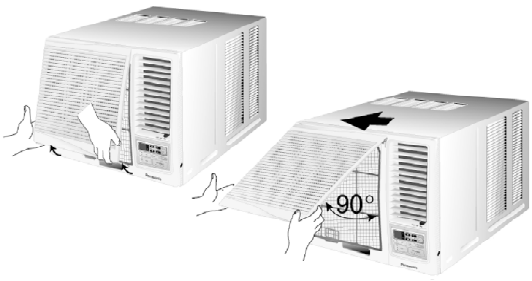
Note: The unit may also be installed “Through the Wall”. You should, however, observe standard carpentry practices and frame the opening without violating local ordinances.

Note: It is much easier, and also safer, to install the empty Cabinet into a window first and we would suggest that you follow this procedure.

10.1. Preparation of Air Conditioner Chassis.

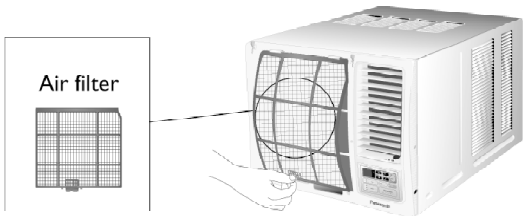
10.1.1. Remove the Front Intake Grille.

- Pull up the Front Intake Grille about 90° and slide it slightly to the left to unhook the tabs .



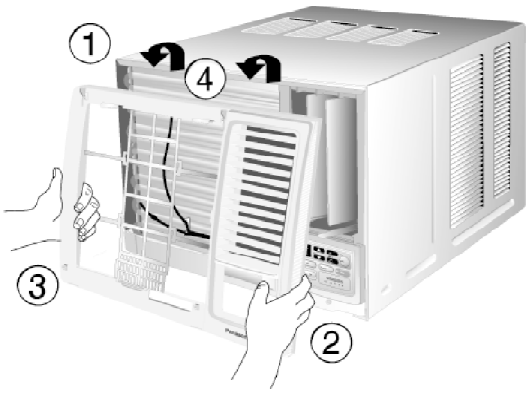
10.1.2. Remove the Air Filter.

- Tilt up and pull out the Air Filter by the holder.



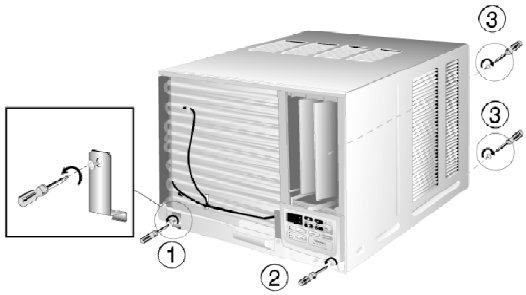
10.1.3. Remove the Front Grille.

1. **Remove the adhesive tapes from all sides of the Front Grille.**
2. **At the bottom right side of the Front Grille, press inward on the Cabinet near the Power Cord and pull the grille outwards to the right until the right tab releases.**
3. **At the bottom left side, push inward on the Cabinet and pull the grille outwards to the left to release the left tab (Do not pull the bottom edge towards you more than 3 inches to avoid damaging the top two tabs).**
4. **Slide the Front Grille upwards to free the top two tabs from slots at the top of the Cabinet.**



10.1.4. Remove the Chassis Locking Bracket from the Cabinet.

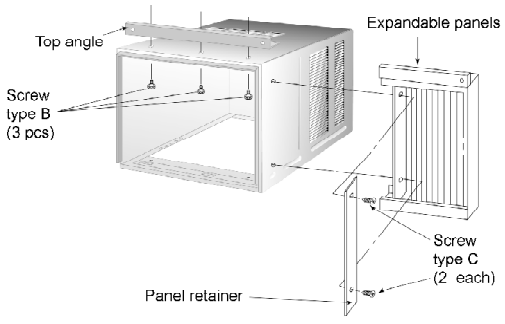
1. **Unscrew and remove the Chassis Locking Bracket. Keep for later use.**
2. **Remove the chassis grounding screw and keep for later use.**
3. **Unscrew and remove from rear Cabinet.**



10.1.5. Slide the Chassis out from the Cabinet.

10.2. How to Assemble the Expandable Panels(Left & Right).

1. Attach the Top angle to the Cabinet using screw Type B (3 pcs).
2. Insert Expandable Panels to the Cabinet sides as shown.
3. Attach a Panel Retainer on the first fold of each Expansion Panel and secure Panel Retainers to Cabinet using screw Type C (2 each). The Panel Retainers are packed in the folds of the Expansion Panels.

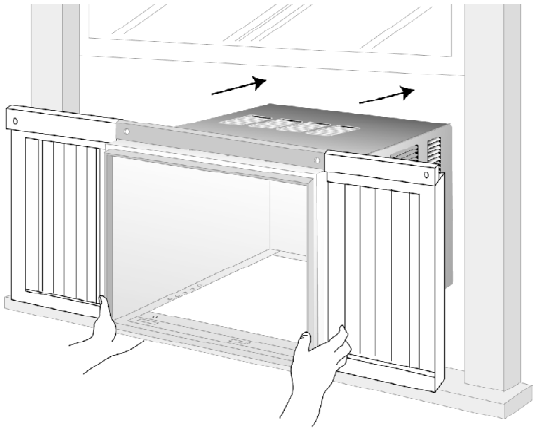


10.3. Cabinet Installation.

1. Cut the “Sealing Ribbon” to the proper length, and attach it along

the bottom edge of the bottom window sash.

2. To prevent condensation water from dripping inside, cabinet should be installed level or very slightly tilted to the outside.

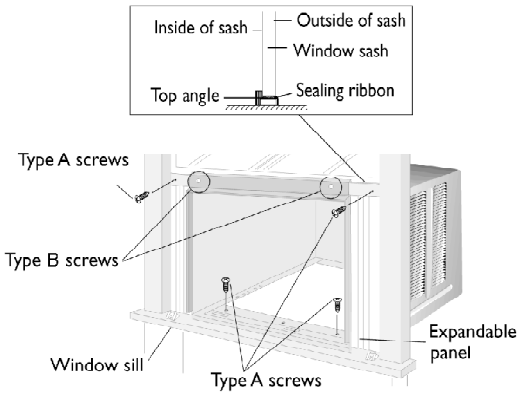


3. Secure the Cabinet using screws.

- Expand the Expandable Panel fully into the grooves of the window frame, secure the Expandable Panel left, right and top mounting frame to the bottom of the window sash using 4 Type A screws and 2 Type B screws.

- Secure the Cabinet using Type A wood screws.

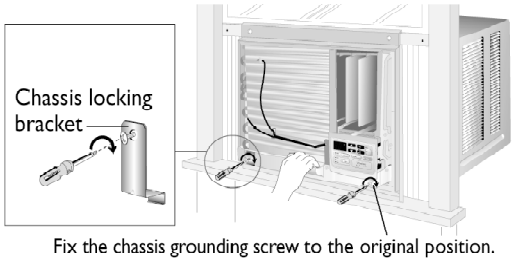
- Cut the window sash foam seal to the proper size and seal the opening between the top of the inside window sash and the outside window sash.



Note: If a gap is exists between the unit and window sash, you may use "Sealer" supplied with the installation kit for a better seal.

10.4. Chassis Installation Into the Cabinet.

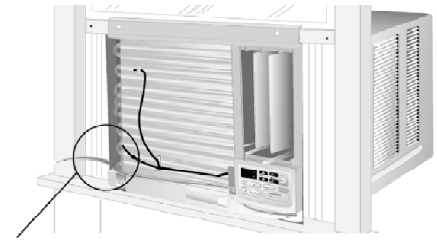
1. **Slide the Chassis into the Cabinet.**
2. **Reinstall the Chassis Locking Bracket and retighten the screw.**



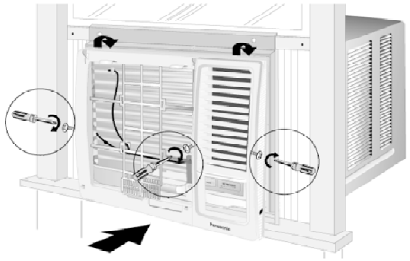
10.5. Installation of the Front Grille.

Depending upon the location of the AC outlet, route the AC cord to either the right or left side while installing the Front Grille.

1. **Place the Front Grille onto the Cabinet first.**
2. **Secure the Front Grille to the main chassis using the screws provided.**

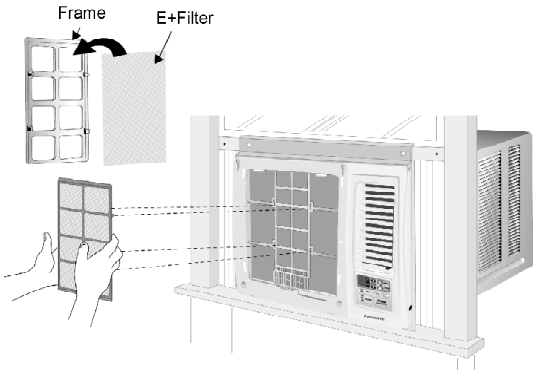


This figure shows the AC cord routed to the left side.



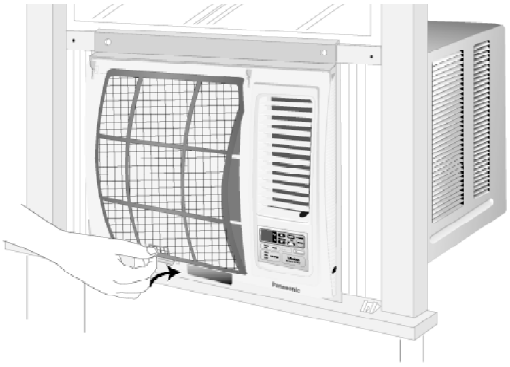
10.6. Insert the E+Filter.

1. **Attach the E+Filter (Part No. CZ-SF6P) to the frame.**
2. **Slot in the frame with E+Filter (Part No. CZ-SFW6P) to the Front Grille.**
   The E+Filter and the frame can be obtained separately from your nearest servicenter.



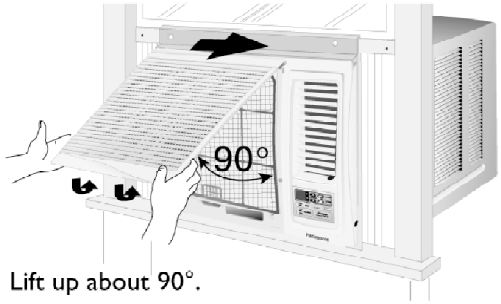
10.7. Insert the Air Filter.

- Attach the Air Filter to the Intake Grille.



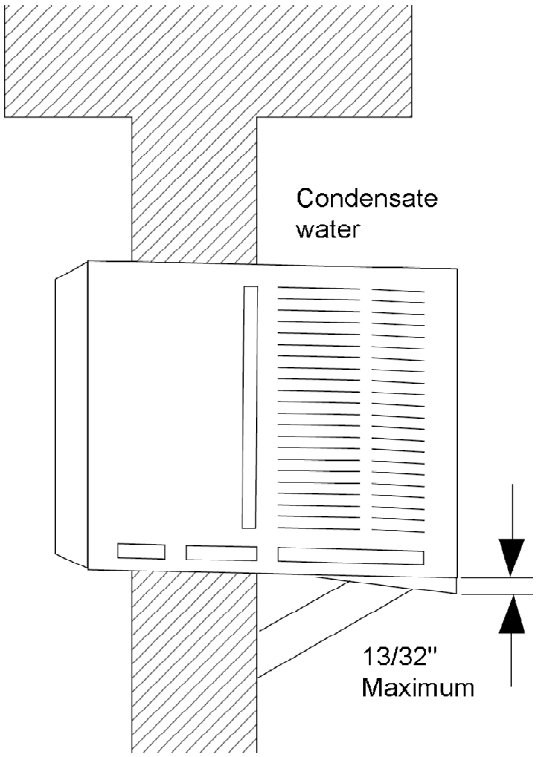
10.8. Place Front Intake Grille onto the Front Grille.

- Slide the Front Intake Grille slightly to the right to reattach the tabs and then push it down to close tight.
  Note: A “click” sound can be heard when the Front Intake Grille is pushed down.

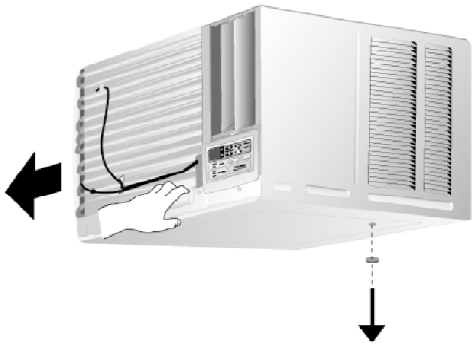


10.9. How to Attach the Drain Pan (Optional).

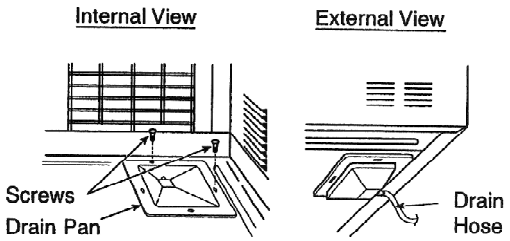
- Drain water.
- To get the maximum cooling efficiency, this air conditioner is designed to splash the condensed water on the Condenser fin. This method is called “Slinger-Up System”. If the splashing sound annoys you, you can provide an outside drain by using the following procedure which may, however, cause a small loss of performance.



1. **Slide out the Chassis from the Cabinet.**
2. **Remove the rubber plug.**



3. **Install the Drain Pan, at the right corner of the Cabinet using 2 screws. The Drain Pan (Part No. CWH40175) and screws (Part No. CWG86C733) can be obtained from the nearest servicenter.**
4. **Insert the Drain hose to the Drain Pan. Drain hose or tubing can be purchased locally to satisfy your particular needs.**



5. Slide the Chassis back into the Cabinet.

11. Care and Maintenance

Caution: Always turn off the air conditioner and the main power supply before unplugging the power cord to clean the unit.

11.1. Cleaning the Unit.

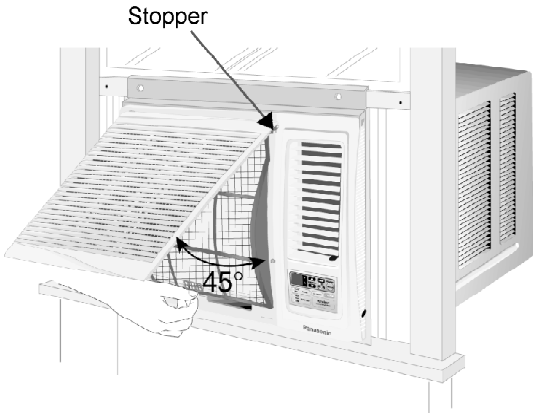
Clean the Cabinet, Front Grille with a mild soap or detergent and lukewarm water.

11.2. Cleaning the Front Intake Grille.

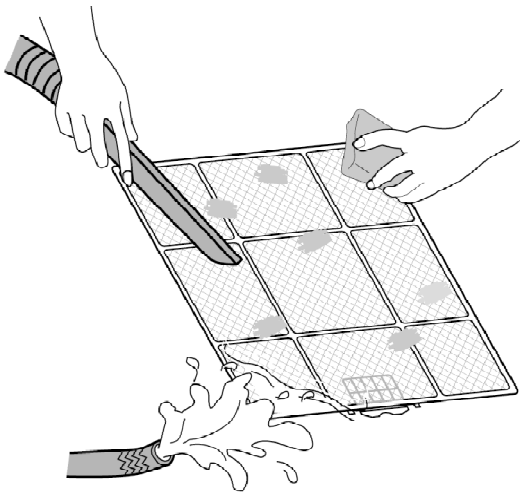
Gently wash with water and a sponge. (Do not use a scrubbing brush or other hard cleaning aids).

11.3. Cleaning the Air Filter.

1. Pull up the Front Intake Grille.
2. Lift up the Front Intake Grille at 45° until it is supported by the stopper.



3. Tilt up and pull out the Air Filter by the holder.
4. Vacuum the front of the filter and then wash the back of it with water. If it is badly soiled, wash with a mild household detergent.



11.4. E+Filter.

It is recommended to replace the E+Filter (Part No. CZ-SF6P) every 3 months.

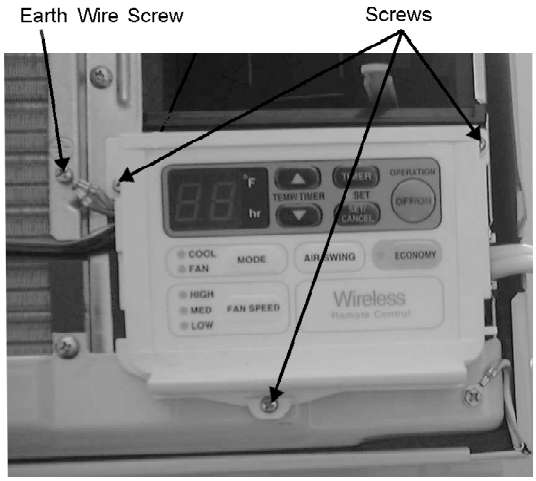
Note: Do not clean with benzene, thinner, scouring powder or corrosive chemicals. Do not dry the Front Intake Panel or the Air filter in direct sunlight. Exposure to direct sunlight may discolor or deform the panel.

12. Service Information

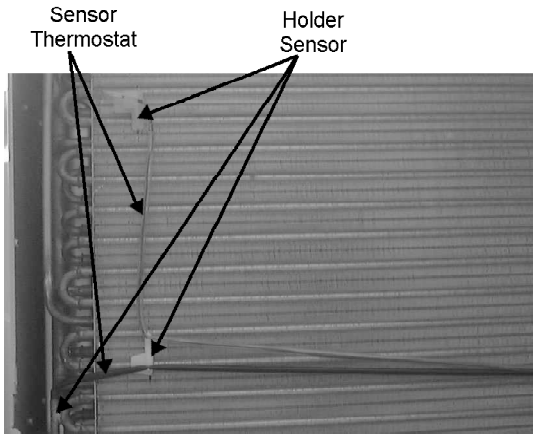
12.1. Removal of the Control Board

1. Removal of the Front Intake Grille (refer to page 17).
2. Remove the Air Filter (refer to page 17).
3. Remove the Front Grille (refer to page 17).
4. Remove the 3 screws from the Control Board.

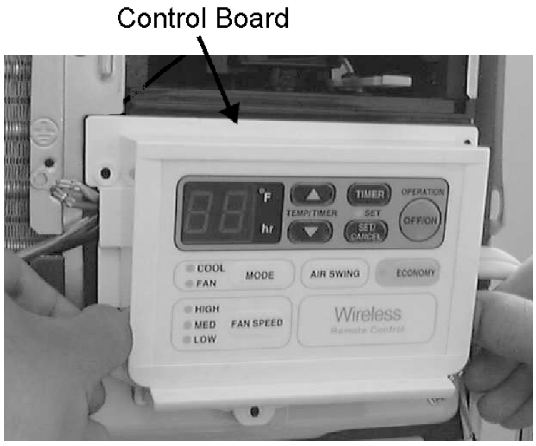
Release the earth wire (Yellow-Green) screw.



5. Release the sensor thermostat from the holder sensor.

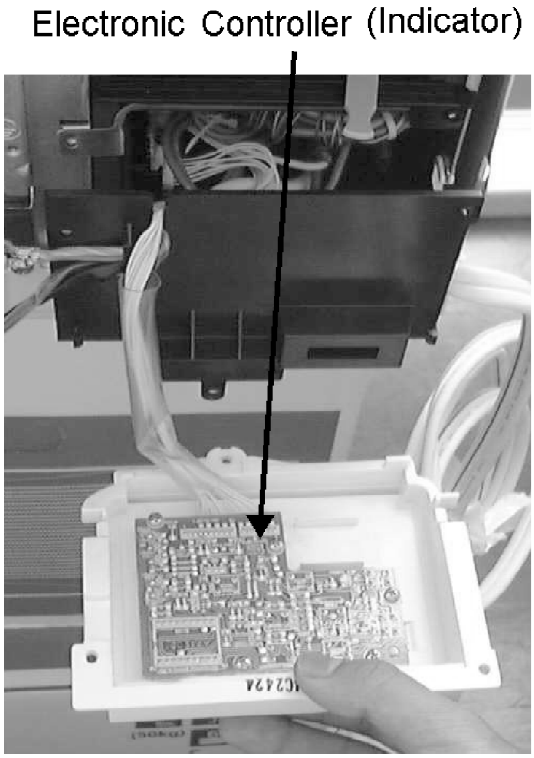


6. Slide the Control Board out from the chassis.

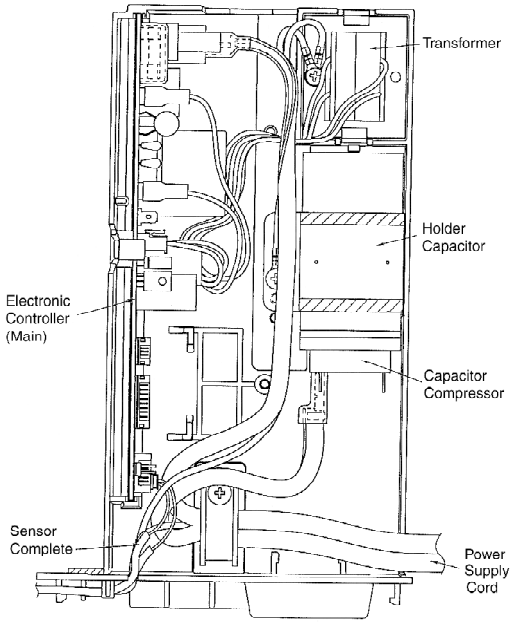


7. Press left and right side tab to release the Control Board (Front).

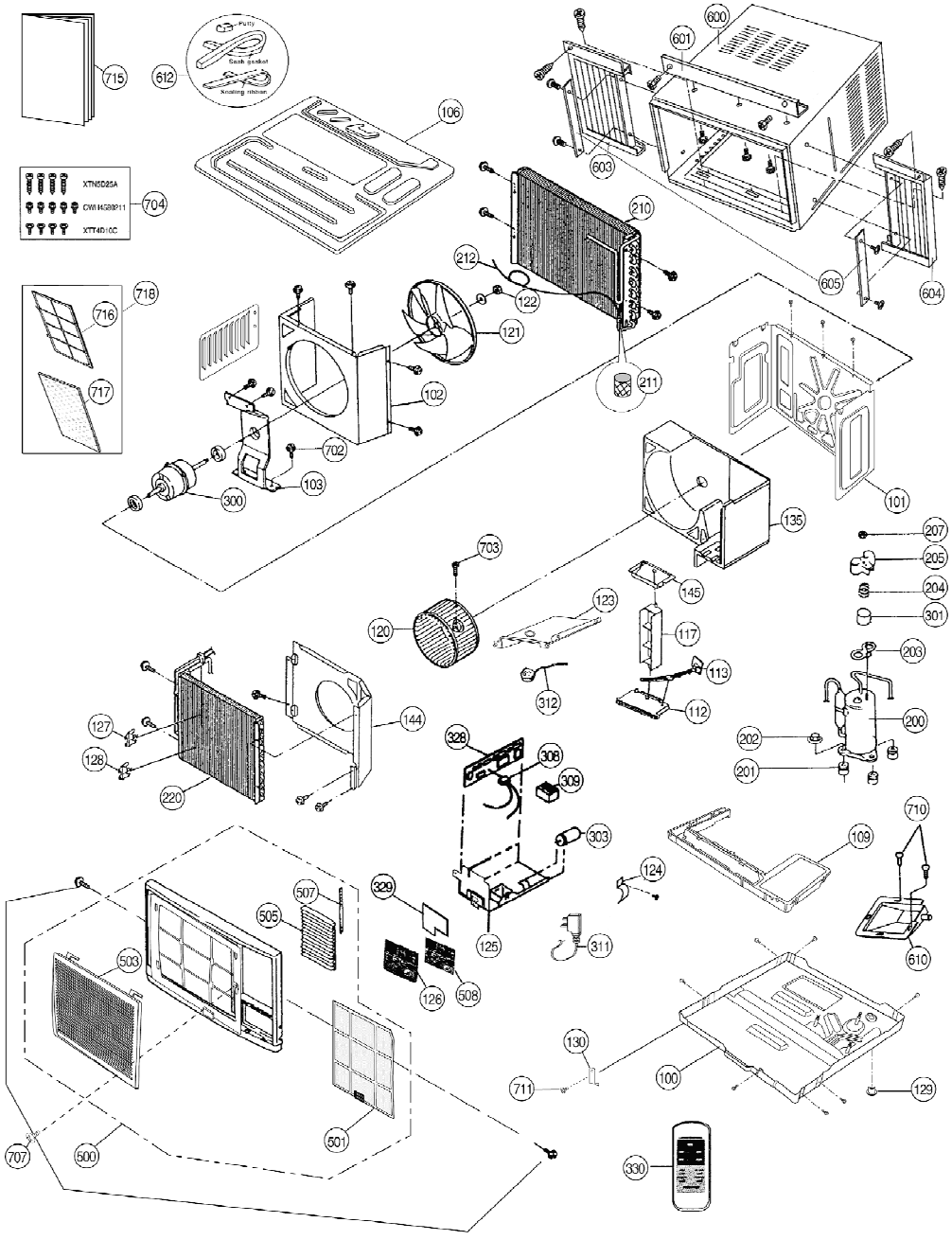
8. Electronic Controller (Indicator Complete) is attached inside the Control Board (Front).



- Control Board part location.



13. Exploded View



(Note)

- The above exploded view is for the purpose of parts disassembly and replacement.

- The non-numbered parts are not kept as standard service parts.

14. Replacement Part List

Ref. No.	Part Name & Description	Qty.	CW-XC100AU	CW-XC120AU	Remarks
100	Base Pan Complete	1	CWD52K1017A	<----	
101	Bulkhead Complete	1	CWD531006	<----	
102	Air Guide - Propeller Fan	1	CWD311005	<----	
103	Bracket - Fan Motor	1	CWD541006	<----	
106	Top Plate	1	CWD64C1004	<----	
109	Drain Tray - Evaporator	1	CWH401006A	<----	
112	Holder - Ventilation Lever	1	CWD911024	<----	
113	Ventilation Lever	1	CWH221001	<----	
117	Vane - Air Swing	1	CWE241006	<----	
120	Blower Wheel Complete	1	CWH01K1002	<----	
121	Propeller Fan	1	CWH001002	<----	
122	Nut - Propeller Fan	1	CWH56032	<----	
123	Holder - Air Swing Motor	1	CWD911028	<----	
124	Holder - Capacitor (Compressor)	1	CWH301003	<----	
125	Control Board (Main)	1	CWH102066	<----	
126	Control Board (Front)	1	CWH102063	<----	
127	Holder - Sensor	1	CWH32142	<----	
128	Holder - Sensor	1	CWH32085	<----	
129	Drain Plug - Base Pan	1	CWH4611062	<----	
130	Chassis Locking Bracket (Left)	1	CWD932055	<----	
135	Air Guide - Blower Wheel	1	CWD321007A	<----	
144	Air Guide - Blower Wheel (Front)	1	CWD321008	<----	
145	Supporter - Air Swing	1	CWD932038	<----	
200	Compressor	1	2P14S126B1Q	2P16S126B1M	
201	Bushing - Compressor Mount	3	CWH50072	<----	
202	Nut - Compressor Mount	3	CWH4582065	<----	
203	Gasket - Terminal Cover	1	CWH7070603U	<----	
204	Holder - Overload Protector	1	CWH7041200	<----	
205	Terminal Cover - Compressor	1	CWH7070205U	<----	
207	Nut - Terminal Cover	1	CWH7080300	<----	
210	Condenser	1	CWB32C1036	<----	
211	Strainer	1	CWB11025	<----	
212	Capillary Tube	1	CWB15K1009	CWB15K1006	
220	Evaporator	1	CWB30C1030	<----	
300	Fan Motor	1	CWA951047	<----	
301	Overload Protector	1	CWA121037	CWA121036	
303	Capacitor - Compressor	1	CWA31410 (40 μF, 250VAC)	CWA31411 (45 μF, 250VAC)	
308	Sensor Complete	1	CWA50C2037	<----	
309	Transformer complete	1	CWA40C1010	<----	
311	Power Supply Cord	1	CWA20C2111	<----	
312	Air Swing Motor	1	CWA98161	<----	
328	Electronic Controller (Main)	1	CWA742275	<----	
329	Electronic Controller (Indicator)	1	CWA742289	<----	
330	Remote Control Complete	1	CWA75C2065	<----	
500	Front Grille Complete	1	CWE11C2165	<----	
501	Air Filter	1	CWD001009	<----	
503	Intake Grille	1	CWE221009	<----	
505	Vane	12	CWE241007	<----	
507	Link - Vanes	1	CWE261004	<----	
508	Control Panel	1	CWE312077	<----	
600	Cabinet Complete	1	CWE00C1010	<----	
601	Top Angle	1	CWD62C030	<----	
603	Expandable Panel (Right)	1	CWH36C031	<----	

Ref. No.	Part Name & Description	Qty.	CW-XC100AU	CW-XC120AU	Remarks
604	Expandable Panel (Left)	1	CWH36C032	<----	
605	Retainer Panel	2	CWD60220A	<----	
610	Drain Pan	1	CWH40175	<----	(A)
612	Aux. Material - Installation	1	CWG86C401	<----	
702	Screw - Bracket Fan Motor	4	CWH55101	<----	
703	Screw - Blower Wheel	1	CWH4580326	<----	
704	Screw - Bag Complete (Installation)	1	CWH82C201	<----	
707	Screw - Front Grille Mount	1	CWH82C1027	<----	
710	Screw - Drain Pan	1	CWG86C733	<----	(A)
711	Screw - Chassis Locking Bracket	1	XTT4+8J	<----	
715	Operating Instructions	1	CWF563181	<----	
716	Frame - E+Filter	1	CWD931046	<----	
717	E+Filter	1	CZ-SF6P	<----	(B)
718	Bag Complete (Frame and E+Filter)	1	CZ-SFW6P	<----	(B)

- The above parts are kept for seven years in accordance with MEI service policy.
- However, longer lead time will be taken in supplying the non-numbered parts.
- All parts are supplied from MAICO, Malaysia (Vendor Code: 061).
- (A): Optional part.
- (B): Supplied through sales route.

15. Electronic Part List

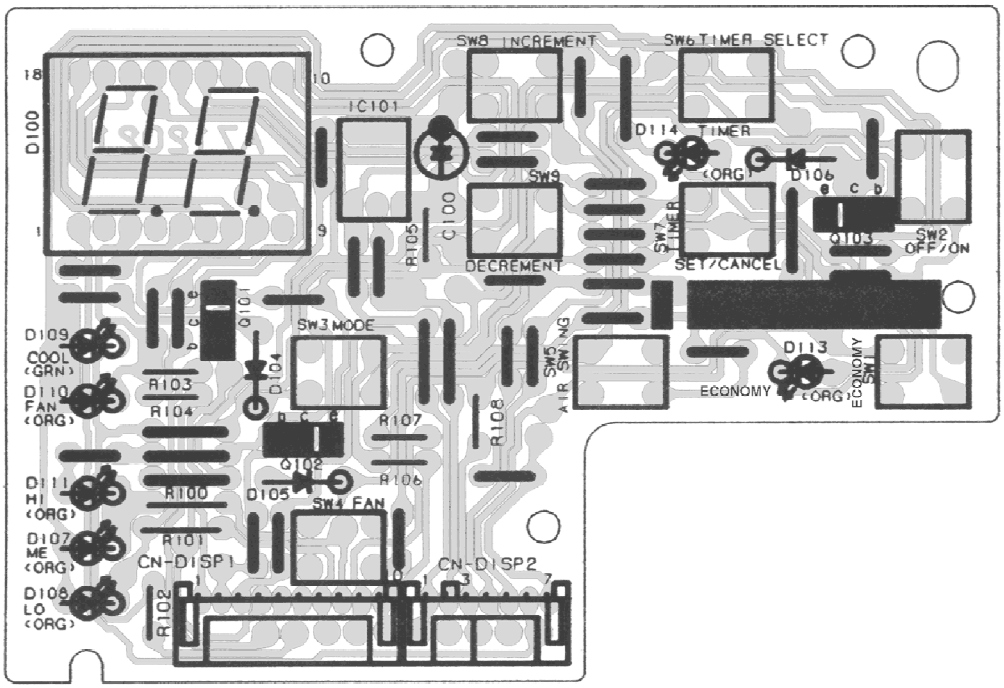
- Electronic Controller - Main (CWA742275)

Symbol	Description & Name	Part No.
IC1	Integrated Circuit	A52MN427MC
IC2	Integrated Circuit	A52MPA2003C
IC3	Integrated Circuit	A52BR9011B
IC4	Integrated Circuit	A52C040
IC5	Integrated Circuit	A52C094
Q1, Q2	Transistor	A55C1740STPS
Q3	Transistor	A55C1741ASTR
Q4	Transistor	A55UN421FTA
X1	Resonator	A45ST4.0MG04
ZD1	Diode	A54D7.5EL1TB
D1	Diode	A54RA15-01V3
DB1	Diode Complete	A54CS1VB20E
ZNR1	Zener Diode	ERZVEAV511
RY-L	Relay	A00161
RY-M	Relay	A00160
RY-H	Relay	A00160
RY-PWR	Relay	A00106
FUSE	Fuse	XBACW067
BZ1	Buzzer	A48039
C-FM	Capacitor Fan	A312046

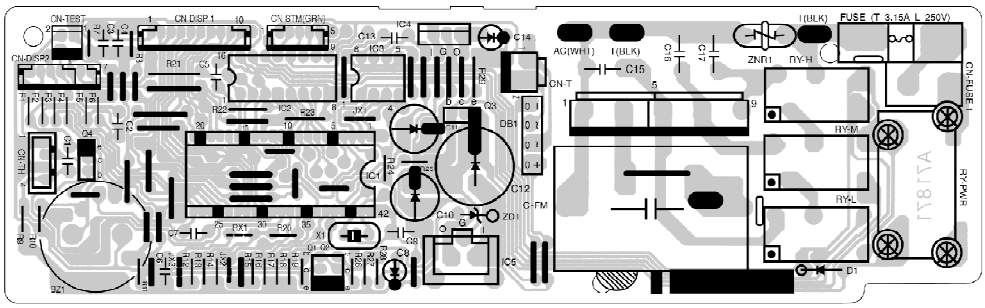
- Electronic Controller - Indicator Complete (CWA742289)

Symbol	Description & Name	Part No.
IC101	Integrated Circuit	A52SPS-440-2
Q101 ~ Q103	Transistor	A55DTB123EST
D100	Diode	A54LB-602MA2
D104 ~ D106	Diode	A54MA165TA5
D107, D108, D110 ~ D111, D113 ~ D114	Diode	A54SLR-325DC
D109	Diode	A54SLR-325MC
SW1 ~ SW9	Switch	A01105

16. Electronic Circuit / Indicator Complete



17. Electronic Circuit / Main

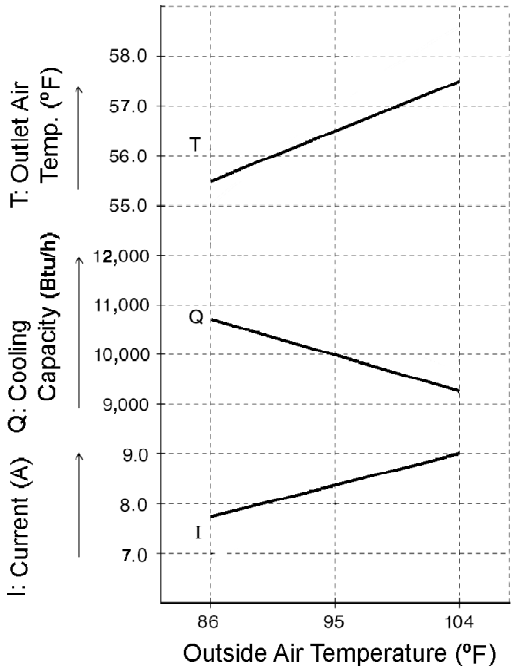


18. Technical Data

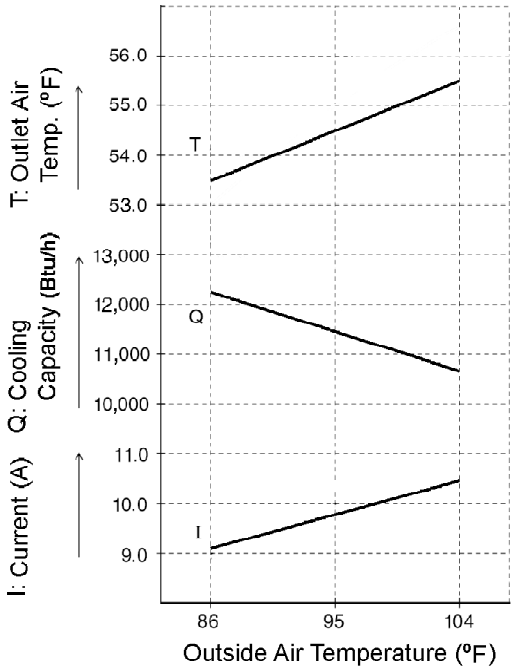
18.1. Operation Characteristics.

- Cooling Characteristics Vs. Outdoor Temperature.

1. CW-XC100AU

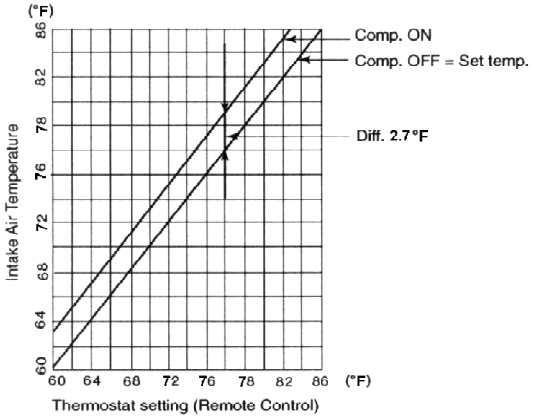


2. CW-XC120AU



18.2. Thermostat Characteristics.

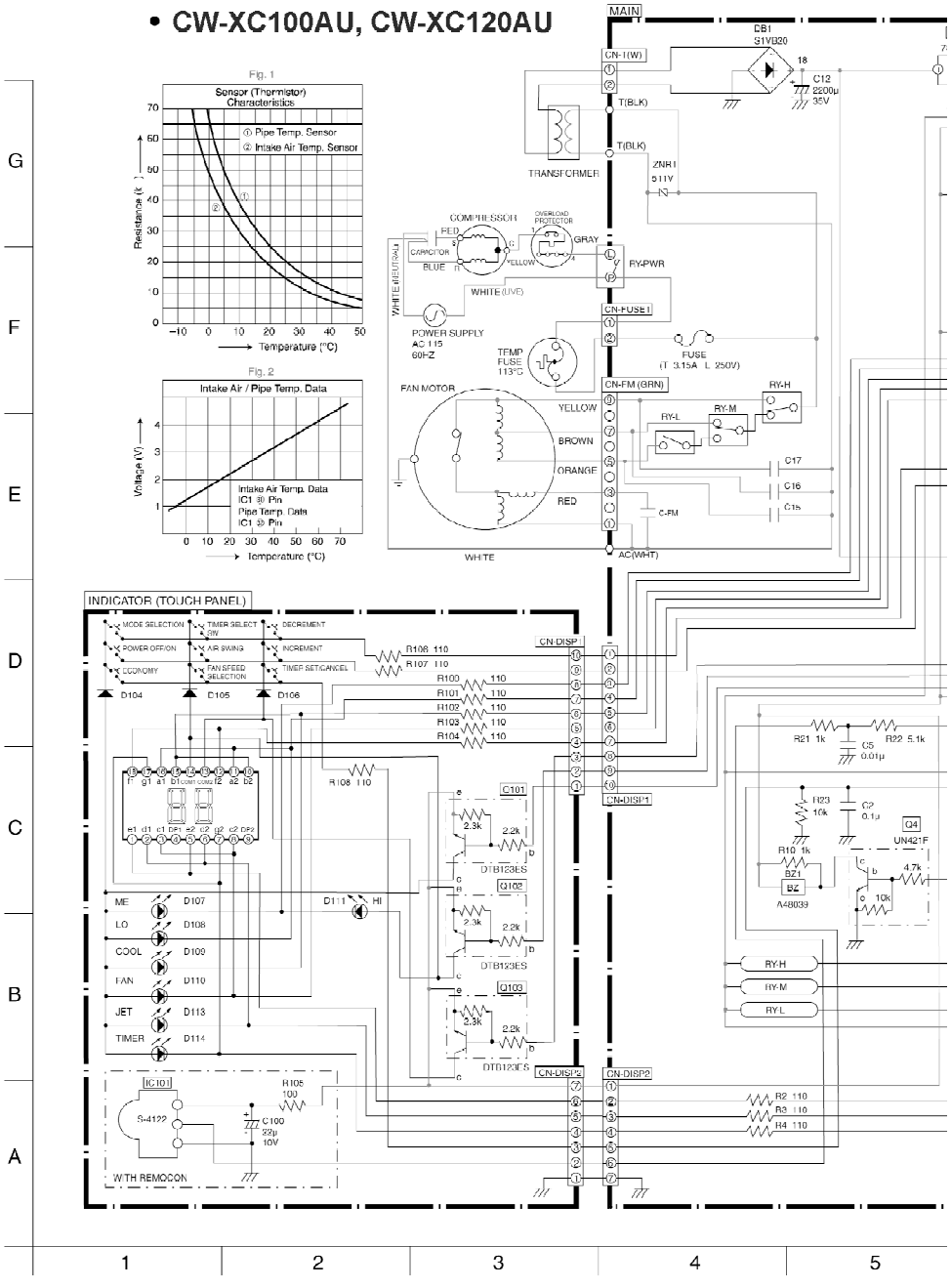
- Cooling

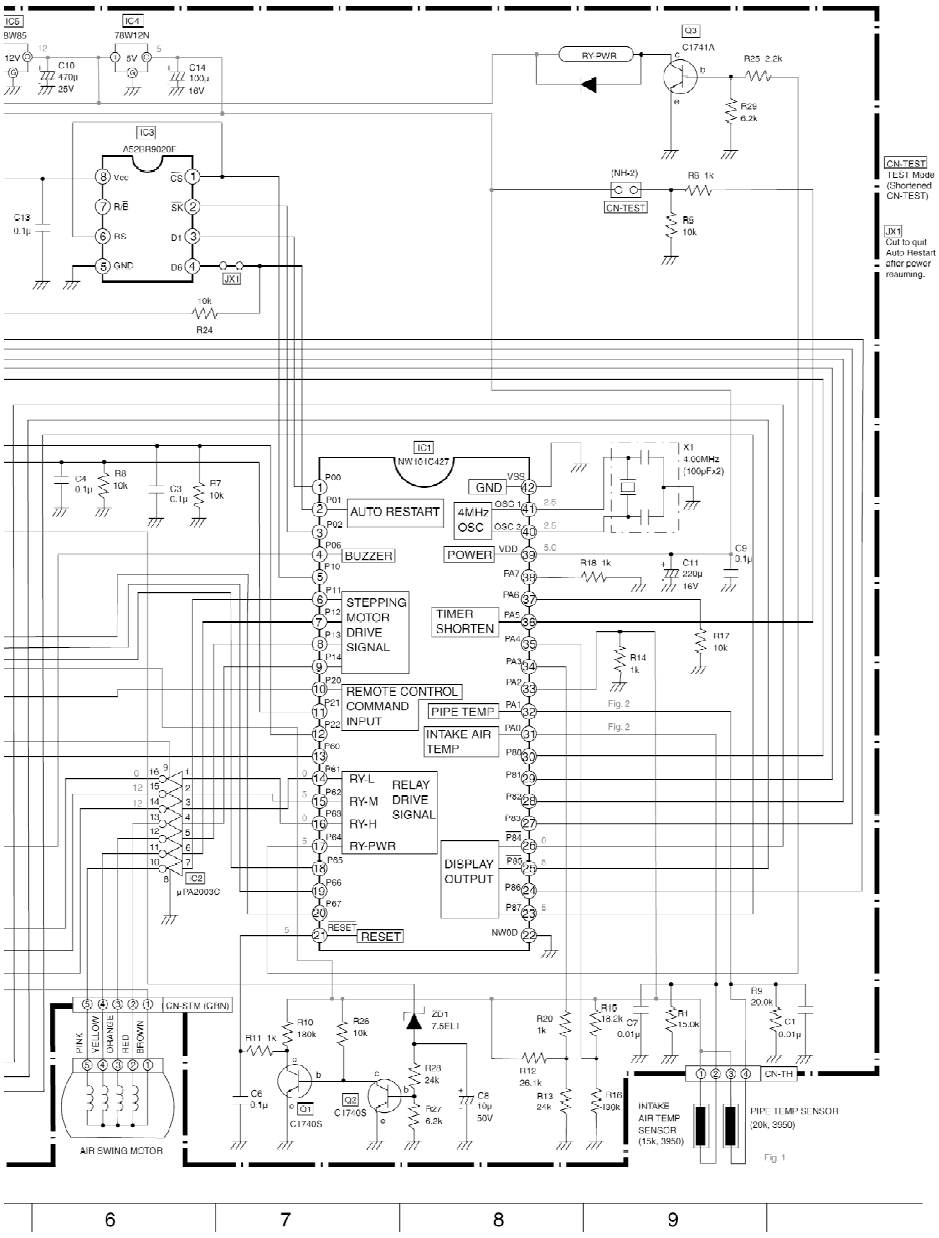


19. Electronic Circuit Diagram

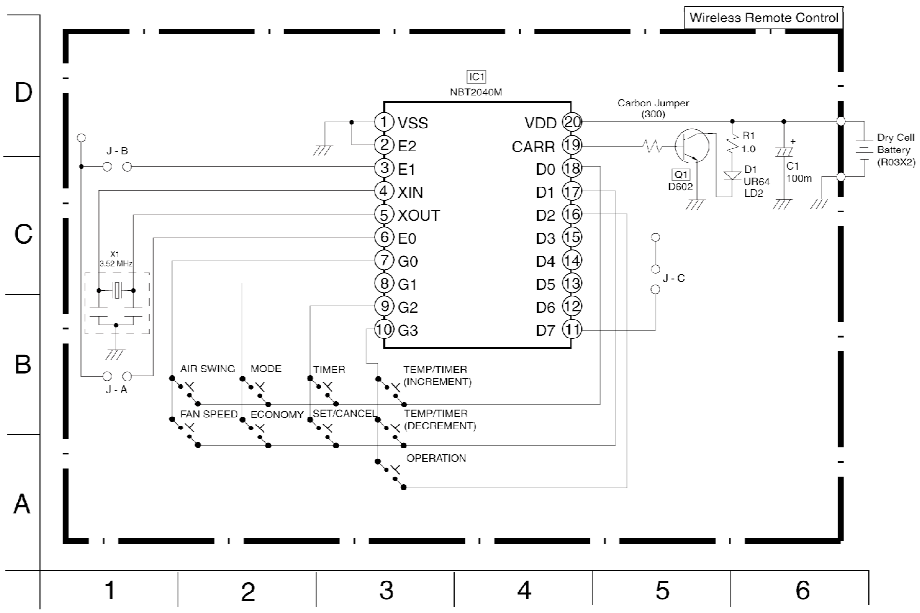
19.1. Electronic Circuit Diagram (Main Unit).

• CW-XC100AU, CW-XC120AU





19.2. Electronic Circuit Diagram (Remote Control).



19.3. How to use electronic circuit diagram.

Before using the circuit diagram, read the following carefully.

- Voltage measurement

Voltage has been measured with a digital tester when the fan is set at high fan speed under the following conditions without setting the timer.

Use them for servicing.

Voltage indication is in red.

	Intake air temperature	Temperature setting	Discharge air temperature	Pipe temperature
Cooling	27°C	16°C	17°C	15°C

- Indications for resistance

- a. K...K Ω

b. W...WATT

c. M...M Ω

d. Not indicated...1/4W

- Type

Not indicated	Carbon resistor Tolerance (+-) 5%
	Metal oxide resistor Tolerance (+-) 1%

- Indications for capacitor

Unit	- μ ... μ F -P...pF
Type	-Not indicated...ceramic capacitor -(S)...S series aluminium electrolytic capacitor -(Z)...Z series aluminium electrolytic capacitor -(SU)...SU series aluminium electrolytic capacitor -(K)...K series aluminium electrolytic capacitor -(P)...P series polyester system -(SXE)...SXE series aluminium electrolytic capacitor -(SRA)...SRA series aluminium electrolytic capacitor -(KME)...KME series aluminium electrolytic capacitor

- Diode without indication...MA165

- Circuit Diagram is subject to change without notice for further development.

19.4. Timer Table

Name	Time	Test Mode (Shortened CN-TEST pin)	Remarks
Hour Timer	1 hr. 10 min. 1 min.	1 min. 10 sec. 1 sec.	
Time delay Safety Control	2 min. 58 sec.	0 sec.	
Forced Operation	60 sec.	0 sec.	
Time Save Control	7 min.	42 sec.	
Freeze Prevention Control	3 min.	0 sec.	
Compressor Reverse Rotation Detection	2 min.	0 sec.	
Starting Current Control	1.6 sec.	0 sec.	
Random Auto Restart Control	0 ~ 62 sec.	0 ~ 6.2 sec.	Add value to Time Safety Contr

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